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**Spore formation in *Botrychium*.**—The development of the spores and the behavior of the tapetum in *Botrychium virginianum* are described by STEVENS.<sup>33</sup> CARDIFF had already published an essentially identical account of the tapetum.<sup>34</sup> STEVENS's term *tapetal plasmodium* seems to be a suggestive and convenient name for the peculiar tapetal mass as it appears in *Botrychium* and many other pteridophytes. The behavior of the kinoplasm and trophoplasm during the formation of spores from the mother cell indicates that these two plasmas are interchangeable, each being able to become transformed into the other.—CHARLES J. CHAMBERLAIN.

**Dichotomous leaves in *Cycas*.**—SEWARD<sup>35</sup> has called attention to the dichotomous leaves of *C. Micholitzii*, a subterranean-stemmed species from Annam. Most of the pinnae are repeatedly dichotomous, but the terminal pinnae are simple and similar to those of other species of the genus. It seems that dichotomous pinnae in the cycads were first noted by MOORE in the Australian *Macrozamia heteromera*. The author suggests the possibility that the usual simple pinnate type of the cycadean leaf "may be the result of reduction from an older type characterized by the more primitive dichotomous habit."—J. M. C.

**Diatomin.**—KOHL was incited by the papers of MOLISCH<sup>36</sup> and TSWETT<sup>37</sup> to reinvestigate the coloring matter of diatoms,<sup>38</sup> having denied in his work on carotin the existence of a special pigment, "diatomin." He now finds that his conclusion was correct as regards any special "diatomin;" but the pigment is not carotin and xanthophyll alone, as he declared, chlorophyll, with the same absorption spectrum as in higher plants, being also present. The leucocyan of MOLISCH he does not find. The yellowish or brownish hue of the diatoms is due to the prevalence of carotin as compared with the higher plants.—C. R. B.

**Germination in *Ophioglossum*.**—The difficulty and the desirability of securing the germination of the spores of the pteridophytes with tuberous gametophytes are well known. CAMPBELL announces (*Annals Bot.* 20: 321) in a brief note that he has secured germination in certain Javanese species of *Ophioglossum*. In every case the characteristic endophytic fungus was present beyond the three-celled stage. In one case a gametophyte of thirteen cells was found; but no stage between this and mature gametophytes were secured.—J. M. C.

<sup>33</sup> STEVENS, W. C., Spore formation in *Botrychium virginianum*. *Annals of Bot.* 19:465-474. pls. 18-20. 1906.

<sup>34</sup> CARDIFF, I. D., The development of the sporangium of *Botrychium*. *BOT. GAZETTE* 39:340-347. pl. 9. 1905.

<sup>35</sup> SEWARD, A. C., Notes on Cycads. *Proc. Cambridge Phil. Soc.* 13:293-302. 1906.

<sup>36</sup> MOLISCH, H., *Bot. Zeit.* 63<sup>1</sup>:131-162. 1905.

<sup>37</sup> TSWETT, M., *ibid.* 273-278.

<sup>38</sup> KOHL, F. G., Die Farbstoffe der Diatomeen-Chromatophoren. *Ber. Deutsch. Bot. Gesells.* 24:124-134. 1906.